

WHAT IS CLAIMED IS:

1. Hybridoma 3H5 which produces a monoclonal antibody against decoy receptor 3 (DcR3).
2. Hybridoma 3H5 which produces a monoclonal antibody  
5 against DcR3.
3. The hybridoma of ~~claim 1 or 2~~, which is a cell line produced from the fusion of the myeloma cell and the B-cell producing anti-DcR3 antibody.
4. The hybridoma of ~~claim 3~~, wherein the B-cell is obtained  
10 from the animal immunized by DcR3 and a immunoglobulin constant region fragment (Fc).
5. The hybridoma of ~~claim 4~~, wherein the immunoglobulin constant region fragment (Fc) is obtained from human G1 immunoglobulin.
6. The hybridoma of ~~claim 5~~, which produces the light chain  
15 variable region polypeptide of the monoclonal antibody against DcR3.
7. The hybridoma of ~~claim 5~~, which produces the heavy chain variable region polypeptide of the monoclonal antibody against DcR3.
8. The hybridoma of ~~claim 5~~, which produces the monoclonal  
20 antibody comprising the heavy chain variable region polypeptide and the light chain variable region polypeptide specific to DcR3.
9. A fusion protein comprising DcR3 and a immunoglobulin constant region fragment (Fc).
10. The fusion protein of ~~claim 9~~, wherein the immunoglobulin constant region fragment (Fc) is obtained from human G1 immunoglobulin.

11. A kit for the detection of DcR3-associated diseases, said kit comprising:

(i) a monoclonal antibody specific to DcR3 produced by hybridoma 9A10C3; and another monoclonal antibody specific to DcR3  
5 produced by hybridoma 3H5;

(ii) a means of support, on which attached said monoclonal antibody specific to DcR3 produced by hybridoma 9A10C3;

(iii) a washing solution; and

(iv) a means for signal generation, which can be operably linked  
10 with said monoclonal antibody specific to DcR3 produced by hybridoma 3H5 to produce a signal.

12. The kit of claim 11, wherein the means of support includes microtiter plate, bead, and protein immobilizing material selected from the group consisting of polyethylene, polystyrene, nitrocellulose and nylon.

13. The kit of claim 11, wherein the washing solution includes  
15 phosphate-buffered saline (PBS) or Tris-buffered saline (TBS).

14. The kit of claim 13, wherein the washing solution further comprises a surfactant.

15. The kit of claim 11, wherein the means for signal generation is  
20 selected from the group consisting of radioactivity immunoassay, fluorescence immunoassay, luminescent label and enzyme.

16. The kit of claim 15, wherein the luminescent label includes biological luminescent label or chemical luminescent label.

17. The kit of claim 15, wherein the enzyme is selected from the  
25 group consisting of alkaline phosphatase, horseradish peroxidase and  $\beta$ -galactosidase.

19. The kit of claim 15, wherein the means for signal generation further comprises biotin.

21. The kit of claim 20, wherein the enzyme is selected from the group consisting of alkaline phosphatase, horseradish peroxidase and  $\beta$ -galactosidase.

23. The kit of claim ~~11~~, wherein the DcR3-associated disease is selected from the group consisting of nasopharyngeal cancer, head and neck cancer, lung cancer, breast cancer, colon cancer, transitional epithelial cancer, hepatic cancer, esophageal cancer, leukemia, lupus erythematosus, hepatitis B, allergies, autoimmunity diseases, acquired immunity deficiency syndrome and any hemo-disease and cancer caused by viral infection.

20 (a) providing a monoclonal antibody specific to DcR3 produced by hybridoma 9A10C3;

(c) contacting a detection sample or DcR3 standard with said  
25 antibody-support conjugate;

(d) washing with a washing solution;

(f) determining the signal produced by said means for signal  
5 generation.

10            26. The method of claim 24, wherein the washing solution includes phosphate-buffered saline (PBS) or Tris-buffered saline (TBS).

28. The method of ~~claim 24~~, wherein the means for signal  
15 generation is selected from the group consisting of radioactivity  
immunoassay, fluorescence immunoassay, luminescent label and enzyme.

30. The method of claim 28, wherein the enzyme is selected from  
20 the group consisting of alkaline phosphatase, horseradish peroxidase and  
 $\beta$ -galactosidase.

32. The method of claim 24, wherein the means for signal  
25 generation further comprises biotin.

33. The method of claim 32, which further comprises providing an avidin operably linked to an enzyme.

34. The method of claim 33, wherein the enzyme is selected from the group consisting of alkaline phosphatase, horseradish peroxidase and  $\beta$ -galactosidase.

35. The method of claim 34, which further comprises providing a substrate, wherein the substrate can react with the enzyme for visulization.

36. A method for the determination of the in vivo DcR3 level, said method using the kit of any one of ~~claims~~ 11 to 23 to detect a serum sample and then reading the result.

37. A pharmaceutical composition, comprising:

(i) an effective amount of the fusion protein consisting of DcR3 and a immunoglobulin constant region fragment (Fc); and

(ii) a pharmacologically acceptable carrier or excipient.

38. The pharmaceutical composition of claim 37, wherein the immunoglobulin constant region fragment (Fc) is obtained from human G1 immunoglobulin.

39. The pharmaceutical composition of claim 38, which is useful in the treatment and/or prevention of DcR3-associated diseases.

40. The pharmaceutical composition of claim 39, wherein the DcR3-associated disease is selected from the group consisting of nasopharyngeal cancer, head and neck cancer, lung cancer, breast cancer, colon cancer, transitional epithelial cancer, hepatic cancer, esophageal cancer, leukemia, lupus erythematosus, hepatitis B, allergies, autoimmunity diseases, acquired immunity deficiency syndrome and any hemo-disease and cancer caused by viral infection.